

The Egg Capsule and Young of the Gastropod

Pyrulofusus harpa (MÖRCH) (Neptuneidae)

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(Plate 1)

THE PROSOBRANCH mollusk *Pyrulofusus harpa* (MÖRCH, 1858) has the centre of its abundance in the Gulf of Alaska from Sitka to the Shumagin and Aleutian Islands. It has been reported also from the Pribiloff Islands in the Bering Sea. Four specimens in my collection were taken in trawls on stony bottom at depths ranging from 74 to 140 fathoms and at localities between 167° west and 150° west along the northern border of the Gulf of Alaska. None was found in the few trawl sets made at depths between 140 and 250 fathoms. All were taken incidentally during exploratory fishing from the Fisheries Research Board of Canada vessel "G. B. Reed".

While *Pyrulofusus harpa* is not uncommon in this region the egg capsule and the capsular young have not been described. Recently a student at the University of British Columbia brought me a very large egg capsule, preserved in formalin, that had been brought up when snagged on one hook of a halibut set-line. The exact locality was not recorded but it was in the Gulf of Alaska off Kodiak Island, the depth about 80 fathoms. The capsule contained a single young that is easily recognizable as *P. harpa*.

The recent description by GONOR (1964) of the egg cases and capsular young of the allied species *Pyrulofusus deformis* (REEVE) prompts me to record the several differences that clearly distinguish the two species.

The egg capsule of *Pyrulofusus harpa* contained just the single young. Not a trace remained of any nurse eggs that had been present. The soft parts of the young had decomposed before preservation was attempted and the small amount of detritus in the capsule proved to have this origin.

The capsule is firmly cemented onto the surface of a small stone by its broadest surface, the base. At this point the capsule is not quite circular (Plate 1, Figure 4) but measures 39 mm by 35 mm and thus is almost 50% larger than that of *Pyrulofusus deformis*. On the other hand it rises only 21 mm from base to apex (Plate 1, Figure 3). These dimensions make it an almost perfect hemisphere. A circular band of whitish material surrounds the base on the stone. Submerged the capsule is slightly yellowish and transparent. The outer surface is hard and its surface is clearly marked with a pattern recalling that of pig-skin leather. The capsule is composed of an outer layer, about 0.08 mm in thickness and patterned as described. Inside this is a thinner, more flexible inner layer, smooth and showing no pattern at 50x magnification.

The capsule young specimen has $2\frac{1}{3}$ whorls (Plate 1, Figure 1). The first two whorls are almost smooth, except for regular incremental lines and just an indication of spiral sculpture. They carry a very delicate white cuticle. The third whorl is distinguished by its pronounced spiral sculpture in which the ridges are more prominent and less numerous than in the figures of *Pyrulofusus deformis*. In comparison with that species also *P. harpa* is more bullate in general form. There is no indication of the longitudinal costae that are so characteristic of the adult (Plate 1, Figure 2). These do not appear until toward the completion of the third whorl.

Measurements of the young specimen are:
Shell length 19.5 mm; maximum diameter of body whorl 12.6 mm; aperture length 13.5 mm; diameter of first whorl 9 mm; height of first whorl 5 mm.

A comparison of the egg capsules and young of the two species of North Pacific and subarctic *Pyrulofusus* can be summarized as follows:

Table 1

Characteristic	<i>Pyrulofusus harpa</i>	<i>Pyrulofusus deformis</i>
Capsule:		
Covering layers	outer layer patterned inner layer smooth	outer layer without pattern (said to be only one layer)
Shape:	hemispherical	subspherical
Maximum diameter	39 mm	27 mm
height	21 mm	24 mm
Young:		
Shell length	19.5 mm	17.8 mm
Spiral sculpture	appears on third whorl 24+ ridges	appears on second whorl 40+ ridges

LITERATURE CITED

GONOR, JEFFERSON J.

1964. Egg capsules and young of the gastropod *Pyrulofusus deformis* (Neptuneidae) at Barrow, Alaska. **Arctic** 17 (1): 48-51

